REMARKS

Claims 1-20 were rejected. Claims 1, 3, 8, 10, and 14-20 are amended. Claims 1-20 are currently pending. The applicant respectfully requests favorable reconsideration of the present application in light of the amendments above and the remarks below.

Amendment to the Specification

The applicant has amended the specification to correct a minor typographical error. In particular, the applicant has amended the equation on line 10 of page 8 to increase the space between the letter "α" and the letter "t". This has been done merely to improve the readability of the specification. The title has been amended to more clearly state the subject matter of the present application as recited in the claims as currently amended. The abstract has been amended to clarify the subject of the application as recited in the claims. The amendment to the abstract is based on the claims as currently amended. No new matter has been added

Claim Objections

The examiner objected to claims 1, 3, 8, 10, 14, and 16 for informalities. The applicant has amended claims 1, 3, 8, 10, 14, and 16 in the manner suggested by the examiner.

Claim Rejections - 35 USC § 101

The examiner has rejected claims 14-20 under 35 USC § 101 for being directed towards non-statutory subject matter. The applicant has amended claims 14-20 in the manner suggested by the examiner.

Claim Rejections - 35 USC § 103

The examiner has rejected claims 1-4, 7-10, 13-17, and 20 under 35 USC § 103(a) as being unpatentable over U.S. Patent No. 6,411,740 issued to Scott J. DALY (hereinafter '740) in view of U.S. Patent No. 5,189,511 issued to Kenneth A. PARULSKI et al. (hereinafter Parulski). The examiner has rejected claims 5-6, 11-12, and 18-19 under 35 USC § 103(a) as being unpatentable over '740, Parulski and U.S. Patent No. 6,196,663 issued to David M. WETCHLER et al. (hereinafter '633).

'740 is directed towards a method for compressing images ('740, column 1, lines 11-13). Most existing compression optimization methods first extract the achromatic component from color images ('740, column 2, lines 46-49). An initial image is converted into a series of frequency band images with different frequency content using a spatial frequency decomposition method ('740, column 5, lines 59-66). The results of the decomposition are coefficients for each pixel in the image ('740, column 6, lines 1-2). The coefficients describe the frequency content of the image at the pixel location ('740, column 6, lines 1-3). These coefficients are then modified with a transducer function ('740, column 6, lines 3-6). The modified coefficients are than quantized ('740, column 6, lines 26-27).

The applicant respectfully disagrees with the examiner's interpretation of Parulski. The discussion below is the applicant's attempt to summarize all of the pertinent information that is disclosed in Parulski.

Parulski discloses signal processing methods for improving the color rendition of hardcopy images captured by an electronic camera (Parulski, column 1, lines 18-24). A camera produces (RGB) tricolor data (Parulski, column 7, lines 32-33). Interpolation is used to create complete RGB data including missing RGB data (Parulski, column 7, lines 39-42). A finite impulse response (FIR) filter is used to create the missing green data (Parulski, column 7, lines 32-33). The red and blue data for the missing pixels is linearly interpolated in a log space based on the missing green data (Parulski, column 7, lines 54-62).

Color correction is performed on the complete RGB data using spectral method linear signal processing methods and log space linear signal processing (Parulski, column 7, line 63 to column 8, line 10, and FIG. 3). The signal processing methods include linear additive type color correction formulas used on the complete RGB data (Parulski, column 4, lines 59-66 and FIG. 3). The additive color corrected signals are further corrected using log space subtractive-type color correction (Parulski, column 5, lines 62-64).

Edge enhancement is used to boost the amplitude of the high spatial frequencies in the image (Parulski, column 7, lines 22-25). An edge enhancement signal is produced by using spectral filters (FIR) to enhance edges and remove noise

on the complete green data that has not been color corrected (Parulski, FIG. 3 and column 8, lines 26-65). The edge enhancement signal is then added to the color corrected RGB data (Parulski, column 8, lines 65-68).

As noted by the examiner, Parulski discloses that only the green data is subjected to edge enhancement processing and this signal is then combined with all three of the red, green, and blue data signals (Parulski, column 10, lines 61-65). Parulski also states that this is done because the green signal carries most of the actual image detail and the red and blue signals are primarily interpolated signals (Parulski, column 10, line 65 to column 11 line 1).

In the rejection of claim 1, the examiner has equated interpolation as used by Parulski to spatially local maps as used by the applicant. The applicant respectfully disagrees with the examiner's supposition.

Interpolation as used by Parulski refers to the process of producing complete red, green and blue records from the sparsely sampled sensor data as discussed in column 7, lines 39-62 of Parulski. The interpolation discussed by Parulski is equivalent to the "demosaicing" as discussed on page 1, lines 20-23 of the applicant's specification. Demosaicing is a term of art that describes an algorithm for interpolating a complete image from the partial raw data received from a color filter array (CFA).

The applicant has given two examples of spatially local maps. A first example of a spatially local map is a linear map that relates the green color channel to the red and blue channels based on parameters that are determined locally at each pixel location using a least-squares algorithm defined in a small local neighborhood (applicant's specification, page 8, lines 3-12). A second example of a spatially local map is a ratio of the local mean of the green channel to the local mean of either the blue or the green channel (applicant's specification, page 8, lines 21-25). It is the applicant's position that the phrase spatially local map, as used by the applicant, is patentably distinguishable from interpolation as used by Parulski. Furthermore, the prior art does not suggest or disclose this feature as recited in claim 1. Therefore, claim 1 is allowable over the prior art.

Claims 8 and 14 are allowable for at least the same reason as claim 1. Claims 2-7, 9-13 and 15-20 are allowable at least because they are dependent upon an allowable base claim

In view of the foregoing amendments and remarks, Applicants respectfully request favorable reconsideration of the present application.

Respectfully submitted,

/Daniel A. Ratoff/
Daniel A. Ratoff
Registration No. 54,389

Please address all correspondence to:

Epson Research and Development, Inc.
Intellectual Property Department
2580 Orchard Parkway, Suite 225
San Jose, CA 95131
Phone: (408) 952-6030
Facsimile: (408) 954-9058
Customer No. 20178
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